

## **FORENSIC SCIENTIST TECHNICAL LEADER (DNA)**

**CS-0401-14**

### **INTRODUCTION**

This position is located in the Department of Forensic Sciences (DFS). The mission of the DFS is to provide high-quality, timely, accurate, and reliable forensic science services using best practices and best available technology, focusing on unbiased science and transparency, to enhance public safety and health.

This position works in the Forensic Biology Unit (FBU) and under the Forensic Science Laboratory Director. The Technical Leader provides expert guidance and advice, and oversees the technical aspects of the FBU analysis programs, with the specific objective of ensuring that those programs maintain best practices, technical relevancy, and compliance with accreditation requirements and statutorily imposed quality assurance standards.

### **MAJOR DUTIES**

Oversee the technical operations of the FBU laboratory and ensure that the methodologies and procedures used in performing casework are in compliance with established standards and accreditation requirements and remain appropriate and relevant in the context of emerging technologies.

Oversee the FBU laboratory quality system to ensure compliance with all associated quality standards pertaining to International 17025 – based accreditation status and Federal Bureau of Investigation Quality Assurance Standards (QAS) for Forensic DNA Testing Laboratories.

Evaluate and document approval of all validations and methods used by the laboratory and propose new or modified analytical procedures used by scientists in the FBU.

Review, on an annual basis, the procedures of the laboratory and document such a review.

Review internal and external DNA Audit documents and, if applicable, approve corrective action(s), and document such review.

Inspect and evaluate equipment, objects, information, and work related conditions to ensure compliance with agency prescribed operating procedures and safety standards, regulations, and guidelines to include manufacturer's specifications on computerized scientific equipment and national laboratory accreditation and QAS standards.

Conduct and oversee research; develop, validate and implement new laboratory analytical procedures deemed feasible by management.

May have casework responsibilities, particularly with respect to more complex cases; perform verifications of results and technical and administrative reviews of cases; provide scientific

consultations; interpret test results and develop conclusions; prepare reports; and serve as an expert witness on findings of tests/results or FBU technologies.

Review and approve the training, quality assurance, and proficiency testing programs in the FBU.

Review academic transcripts and training records for newly qualified scientists and approve their qualifications prior to independent casework analysis and document such review.

Participate in courses, symposiums, workshops, and conferences on matters related to forensic science as well as serology/evidence screening, DNA typing, molecular biology, and mixture interpretation. Develop and oversee scientific programs for training lab staff and stakeholders when applicable. Develop and oversee applied research programs to ensure technical relevancy and agency goals are maintained.

Maintain oversight of technical issues on current cases.

Approve the technical specifications for outsourcing agreements.

When necessary, review requests by contract employees for employment by multiple NDIS participating and/or vendor laboratories and, if no potential conflict of interest exists, may approve such requests.

Assist with the search for and writing grant applications for acquisition of funding where appropriate.

Perform other duties as assigned.

#### **KNOWLEDGE REQUIRED BY THE POSITION**

Expert knowledge of, and skill in, the following:

- Biological screening of evidence as well as human DNA analysis and interpretation.
- Forensic biology laboratory quality and accreditation standards and guidelines as they relate to ISO 17025 and the QAS.
- Developing methods of laboratory experimentation, application of scientific theory; and overseeing and coordinating short, medium, and long-range operational activities of an operational forensic DNA laboratory.
- Applying analytical and evaluative methods and techniques to conduct in-depth research of operational/program issues; to review and analyze complex reports; to develop necessary plans; and to prepare clear, in-depth reports of studies and recommendations.
- Effective communication to solve complex problems.

Demonstrated skill and ability to use a PC and software packages (e.g., Microsoft Word, Excel, Access and PowerPoint, etc.) and software applicable to various reporting systems.



## **SUPERVISORY CONTROLS**

Authority to initiate, suspend and resume DNA analytical operations for the laboratory or an individual.

## **GUIDELINES**

Guidelines include policies and procedures of DFS, including but not limited to the standard operating procedures developed by the FBU unit through the validation of analytical procedures, governing laws and regulations of the District and Federal government, Mayor's Orders, instructions, and the Deputy Mayor's policies and priorities. Incumbent exercises sound judgment in choosing, interpreting, or adapting available standards and guidelines to specific issues or subjects. Many situations are not covered by the guidelines, and therefore, require interpretation and adaptation or research.

## **COMPLEXITY**

Develops and validates criteria for testing parameters with new methods and equipment as well as training team members to perform the same. Maintains quality control measures and ensures detailed documentation of test results. Provides appropriate leadership in the application of procedures, identifies problems, and anticipates and addresses any deviations or discrepancies in the results. The work requires assessing, evaluating, modifying, and adapting various methods to satisfy requirements and to arrive at sound conclusions.

## **SCOPE AND EFFECT**

The work involves leading a team in performing technically sound casework examinations meeting agency, accreditation and QAS requirements; resolving critical problems; developing new theories; and establishing and maintaining technical adequacy.

The result of the work may affect other experts and/or the department's credibility, adequacy, accuracy, and effectiveness and laboratory tests, and ensures its relevancy to each to assist with closure. The results are also binding and affect judicial proceedings.

## **PERSONAL CONTACTS**

Contacts are with DFS officials, employees, laboratory personnel, consultants, Federal and District regulatory agencies, the general public, law enforcement, and investigators, and other stakeholders.

The incumbent must establish professional liaisons with colleagues engaged in DNA testing and research.

## **PURPOSE OF CONTACTS**

Contacts are for the purpose of influencing and motivating persons or groups in order to obtain the desired effect, such as gaining compliance with established policies and regulations by exchanging and gathering information, ensuring efficient and orderly work flow as it pertains to examination of evidence and preparation of detailed reports.

### **PHYSICAL DEMANDS**

Work is sedentary; however, some work requires periods of walking, standing, bending, stretching, etc. Occasionally carry items weighing up to 50 pounds, such as bags and/or boxes of evidence. Incumbent must possess sufficient manual dexterity to manipulate and operate laboratory equipment; must be able to visually distinguish color, shape, size, number and picture resolution quality; and must be able to withstand exposure to disagreeable elements such as malodorous and/or decomposing samples/bodies, blood, bodily fluids, etc. that may pose a health risk.

### **WORK ENVIRONMENT**

The work is performed in an office and laboratory. The office setting is when preparing documentation, and the laboratory is during research, testing, and analysis phases.

The incumbent may be exposed to hazardous materials, toxic substances, blood borne pathogens, and electric current and electrostatic discharge and is required to follow safe laboratory practices and wear protective clothing, including facial masks, safety glasses, gloves, etc.

### **OTHER SIGNIFICANT FACTS**

### **SPECIAL REQUIREMENTS**

This position's duty station will be housed within the Consolidated Forensic Laboratory (CFL) which is a protection-sensitive facility. As such, incumbents of this position shall be subject to criminal background checks, background investigations, and mandatory drug and alcohol testing, as applicable. Due to the potential for handling of primary evidence and the need to enter FBU laboratory space, the applicant will be required to submit a buccal swab for the purposes of the DNA Quality Control database for the DFS.

The nature of the DFS mission necessarily involves potential risks associated with biological or chemical hazards, including morgue functions. Although contact with these functions is intended to be minimal, the risks are nevertheless possible; training to recognize, address, and mitigate these risks is required as is dealing with potentially personally difficult topics, such as crime, death, and disease.

### **EDUCATION AND EXPERIENCE**

Incumbent must have, at minimum, a Master's degree in a biology, chemistry, or forensic science-related area from an accredited college or university:

Successful completion of twelve (12) semester or equivalent credit hours from a combination of undergraduate and graduate course work covering the following subject areas: biochemistry, genetics, molecular biology, and statistics or population genetics. The 12 semester or equivalent credit hours shall include at least one graduate level class registering three (3) or more semester or equivalent credit hours.

At a minimum, six years of forensic DNA laboratory experience obtained at a laboratory where



forensic DNA testing was conducted for the identification and evaluation of biological evidence in criminal matters. At a minimum, three years of human DNA (current or previous) experience as a qualified analyst on forensic samples. The technical leader shall have previously completed or successfully complete the FBI-sponsored auditor training within one year of appointment.

Incumbent is required to successfully complete competency testing prior to beginning technical work on any equipment or instrument in a specialty discipline or sub-discipline.

The nature of the work in the Forensic Science Laboratory requires safe handling and processing of chemicals and reagents within the laboratory, and standard health and safety processes must be constantly demonstrated and reinforced.

May be required to work weekends and holidays.

**LICENSURE/CERTIFICATION**

None

**FLSA Status:** Exempt

**Standards:** US OPM Professional Work in the Natural Resources Management and Biological Sciences Group, 0400, September 2005

**Certification Date:** 10 June 2015

**Job Code:**

**Smart Code:** MG0203